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ON THE GIGANTIC MAMMALS OF THE AMERICAN EOCENE.

BY PROFESSOR O. C. MARSH.

(Abstract of a paper read before the American Philosophical Society,
April 4th, 1873.)

The recent publications of this Society contain a number of papers by Prof. Cope on a group of Eocene mammals which I have called *Dinocerata*, and previously described in the American Journal of Science.* In a communication to this Society, December 20th, 1872, I pointed out some of the errors made by Prof. Cope in his descriptions of these animals, and I have since corrected many others elsewhere.† As it is important to have the true characters and affinities of the *Dinocerata*, as well as the facts relating to their discovery, placed on record, I desire now to call the attention of the Society to a number of points in which Prof. Cope's various papers on this subject need correction :

1st. The name *Tinoceras*, Marsh, antedates *Eobasileus*, Cope, and the family name, *Tinoceratidæ*, also has priority over *Eobasilidæ*. 2d. The name *Loxolophodon* is preoccupied, and hence should not be applied to this genus. 3d. *Eobasileus cornutus*, Cope, is a synonym of *Tinoceras grandis*, Marsh. *E. furcatus*, Cope, was based on the posterior horn-cores of known species, and not on the nasal or frontal bones as Prof. Cope supposed. 4th. The genus *Dinoceras*, Marsh, is quite distinct from *Uintatherium*, Leidy, although perhaps nearly related. It differs essentially in the position of the occipital condyles in the more anterior position of the posterior horn-cores, and in the structure of the upper true molars. 5th. The mammals of the above genera constitute a distinct order, *Dinocerata*, which approaches the Perissodactyls rather than the Proboscidiæ. 6th. There is no evidence, in the osteological characters, of a long proboscis, and much against it. 7th. The *Dinocerata* have no under incisors, and the teeth so called by Prof. Cope are canines. 8th. The nasal bones are much elongated, and the anterior horn-cores are on these bones and not on the frontals. 9th. The frontal bones do not extend in front of the premaxillaries, and they do not support horns or processes at both extremities. 10th. The middle pair of horn-cores are not

* Vol. II, p. 35, July, 1871; Vol. IV, Erratum, Sept., 1872, and pp. 322, 323, 343, Oct., 1872.

† Am. Jour. Sci., Vol. V. pp. 117, 293 and 310, 1873. Also Am. Naturalist, Vol. VII, pp. 52, 146 and 217.

on the frontals, but mainly on the maxillaries, the nasals forming only a small portion of the inner base. 11th. The orbits were not below these horns, but behind them, especially when the head was in its natural declined position. 12th. The zygomatic arch resembles that in the Perissodactyls rather than that of the elephants. 13th. The temporal fossæ are large posteriorly, and not small. 14th. The occiput is oblique, and not vertical. 15th. The tarsus and foot are Perissodactyl in structure rather than Proboscidian. 16th. The genus *Dinoceras* has four sacral vertebræ, and the other genera probably the same. 17th. The neck in *Tinoceras grandis*, Marsh (*Eobasileus cornutus*, Cope), was more than a foot in length, as specimens in the Yale Museum clearly show. The only species of *Dinocerata* now known with certainty are the following: *Tinoceras anceps*, Marsh; *T. grandis*, Marsh; *Uintatherium robustum*, Leidy; *Dinoceras mirabilis*, Marsh; and *D. lacustris*, Marsh.